

IN THE CLAIMS:

Claim 1 (currently amended): A process for modifying a polymeric photoactive sulfone membrane comprising:

placing the polymeric photoactive sulfone membrane into the presence of acrylic acid monomer dissolved in a solution and without sensitizer or free radical initiator; [[and]]

exposing the membrane to non-ionizing UV radiation for a selected period of time for modifying the membrane by chemical grafting and attachment of the monomer at the surface of the membrane by covalent bonding without any sensitizer or free radical initiator, the UV radiation for exposing the membrane being selected to have an energy below a second energy (E2) at which a maximum degree of grafting onto the membrane surface occurs in a graph plotting degree of grafting against irradiation energy, and near a first energy (E1) below which chain-scission is minimized; and

washing the modified membrane in a washing agent containing a solvent selected from the group consisting of ethanol, glycol, ether, or mixtures thereof, which agent is adapted to wash homopolymer formed in the solution, from the modified membrane.

Claim 2 (currently amended): A process according to claim 1, further comprising selecting the polymeric photoactive sulfone membrane to be from the group consisting of polysulfone, polyethersulfone, and polyarylsulfone the first energy being 4 kJ/m² and the second energy being about 8 kJ/m², and the washing agent being ethanol.

Claims 3-9 (canceled).

Claim 10 (currently amended): A modified polymeric photoactive ~~sulfone~~ polyethersulfone membrane made by the process comprising:

placing the polymeric photoactive ~~sulfone~~ polyethersulfone membrane into the presence of acrylic acid monomer dissolved in a solution and without sensitizer or free radical initiator; [[and]]

exposing the membrane to non-ionizing UV radiation for a selected period of time for modifying the membrane by chemical grafting and attachment of the monomer at the surface of the membrane by covalent bonding without any sensitizer or free radical initiator, the UV radiation for exposing the membrane being selected to have an energy below a second energy (E2) of about 8 kJ/m² at which a maximum degree of grafting onto the membrane surface occurs in a graph plotting degree of grafting against irradiation energy, and near a first energy (E1) of 4 kJ/m² and below which chain-scission is minimized; and
washing the modified membrane in a washing agent containing a solvent selected from the group consisting of ethanol, glycol, ether, or mixtures thereof, which agent is adapted to wash homopolymer formed in the solution, from the modified membrane.